

CLAIMS

What is claimed:

1. An composition for sustained release delivery of an asymmetric disulfide comprising:
an asymmetric disulfide or the derivative thereof;
a matrix including at least one polymer.
2. The composition of claim 1 wherein said composition erodes and releases the asymmetric disulfide or the derivative thereof in a patient and maintains in the patient a therapeutically effective concentration of said asymmetric disulfide in the patient for at least three hours.
3. The composition according to claim 1 wherein said hydrophilic polymer is selected from the group consisting of gelatin, methyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxyethyl methylcellulose, carboxymethylcellulose and sodium carboxymethylcellulose.
4. The composition of claim 1 further including a pharmaceutically acceptable carrier of said asymmetric disulfide.
5. The composition of claim 1, wherein said asymmetric disulfide is an inhibitor of cellular redox signaling.
6. The composition of claim 5, wherein said inhibitor of cellular redox signaling prevents inhibition of apoptosis.
7. The composition of claim 5, wherein said inhibitor is an inhibitor of thioredoxin or thioredoxin reductase.
8. The composition of claim 1 further comprising a chemotherapeutic.
9. The composition of claim 1, wherein the asymmetric disulfide includes 1-methylpropyl 2-imidazolyl disulfide.
10. A method of inhibiting cellular growth comprised of:
contacting cells in a patient with a therapeutically effective amount of an asymmetric disulfide composition for at least 3 hours, said asymmetric disulfide composition being an inhibitor of cellular growth.

11. The method of claim 10 wherein said asymmetric composition includes 1-methylpropyl 2-imidazolyl disulfide and a polymer.
12. The method of claim 10 wherein the cellular growth is FAP polyps or angiogenesis.
13. A method of treating abnormal cellular activity in a patient, said treatment comprising:
administering to a patient a therapeutically effective amount of a composition including an asymmetric disulfide or derivative thereof for three hours or more to reduce patient plasma thioredoxin levels.
14. The method of claim 13 wherein said asymmetric disulfide includes 1-methylpropyl 2-imidazolyl disulfide in a dose of about 9 to about 128 mg/m².
15. The method of claim 13 wherein said composition includes 1-methylpropyl 2-imidazolyl disulfide and a polymer.
16. The method according to claim 13 wherein said administering step comprises:
intravenous administration of a composition including 1-methylpropyl 2-imidazolyl disulfide to said patient which results in a therapeutically effective amount of the disulfide in the patient for three hours or more.
17. The method according to claim 13 wherein said administering step comprises:
oral administration of a composition including 1-methylpropyl 2-imidazolyl disulfide to said patient which results in a therapeutically effective amount of the disulfide in the patient for three hours or more.
18. The method according to claim 13 wherein a chemotherapeutic or radiological treatment is administered to the patient such that the asymmetric disulfide composition and the effect of the chemotherapeutic or radiological treatment on the patient, are present within the patient at the same time.
19. The method of claim 13 wherein the disease characterized by over expression of thioredoxin in the patient is chosen from the group consisting of breast cancer, renal cancer, colon cancer, and glioblastomas.
20. A prophylactic treatment of a patient comprising:

administering to a patient a therapeutically effective amount of a composition including an asymmetric disulfide or derivative thereof for three hours or more to prevent abnormal cell activity in a patient.

21. The method according to claim 20 wherein said asymmetric disulfide is 1-methylpropyl 2-imidazolyl disulfide in a dose upto about 128 mg/m².
22. The method according to claim 20 wherein said administering step comprises:
intravenous administration of the composition.
23. The method according to claim 20 wherein said administering step comprises:
oral administration of a sustained release composition including 1-methylpropyl 2-imidazolyl disulfide.
24. The method according to claim 20 wherein said composition further includes a polymer.
25. A method of treating pancreatic cancer comprising: administering a therapeutically effective of asymmetric disulfide to achieve a therapeutic purpose.
26. The method of claim 25, wherein said asymmetric disulfide is a imidazolyl disulfide.
27. The method of claim 25, wherein the imidazolyl disulfide is 1-methylpropyl 2-imidazolyl disulfide.